

**AMENDMENTS TO THE CLAIMS:**

This listing of claims replaces all prior versions and listings of the claims in the present application.

**Listing of Claims:**

Claims 1-2 (canceled).

3. (Currently Amended) An adjustable free-standing, floating solar chimney, comprising:

a main chimney unit configured to be substantially tilttable with respect to the vertical axis, the main chimney unit including a plurality of dynamically independent floating parts, wherein each dynamically independent floating part includes at least one cylindrical balloon ring containing non-flammable, lighter-than-air gas, and wherein each dynamically independent floating part further includes at least one supporting ring to withstand compressive forces, and wherein the at least one cylindrical balloon ring and the at least one supporting ring of each dynamically independent floating part are fixedly interconnected, and wherein each dynamically independent floating part is separated from the adjacent dynamically independent floating part by an intervening balloon ring configured to freely draw in and emit air, whereby each dynamically independent floating part is enabled to move independently of adjacent dynamically independent floating parts to achieve an incline angle with respect to the vertical axis independent of incline angles of adjacent floating parts;

a base unit coupled to the main chimney unit, wherein each dynamically independent floating part of the main chimney unit is independently, fixedly connected to the base unit, and wherein the base unit includes an upper ring and a lower ring having equal weight and different exterior diameters, and wherein the upper ring and the lower ring are fixedly tied, and wherein the total weight of the base unit is larger than the net lift force of the main chimney unit;

a dynamically variable folding unit coupled to the base unit, wherein the dynamically variable folding unit is fastened to the lower ring of the base unit and has a flexible, accordion-like configuration, and wherein the dynamically variable folding unit includes a plurality of balloon rings and a plurality of supporting rings, and wherein the plurality of balloon rings of the dynamically variable folding unit each have one of an aperture and a

valve configured to freely draw in and emit ambient air, whereby the dynamically variable folding unit is configured to bend in accordance with the orientation of the main chimney unit and the base unit; and

a chimney seat configured to accommodate the base unit and the dynamically variable folding unit, wherein at least a portion of the base unit is seated on the top portion of the chimney seat, and wherein at least a portion of the dynamically variable folding unit is contained within the chimney seat, and wherein an exterior diameter of the upper ring is larger than an exterior diameter of the chimney seat, and an exterior diameter of the lower ring is smaller than an internal diameter of the chimney seat.

4. (Previously Presented) The adjustable floating solar chimney according to claim 3, wherein the main chimney unit includes a double-wall configuration, and wherein the lighter-than-air gas is at least one of He and NH<sub>3</sub>.
5. (Previously Presented) The adjustable floating solar chimney according to claim 3, wherein the at least one cylindrical balloon ring containing non-flammable, lighter-than-air gas is made of strengthened plastic.
6. (Previously Presented) The adjustable floating solar chimney according to claim 3, wherein the at least one supporting ring is an articulated structure including a plurality of segments made of one of: a) hard plastic; b) composite material; and c) aluminum.
7. (Previously Presented) The adjustable floating solar chimney according to claim 3, wherein the at least one cylindrical balloon ring is tied to connecting tips of the at least one supporting ring of each dynamically independent floating part, using high strength threads.
8. (Previously Presented) The adjustable floating solar chimney according to claim 3, wherein each dynamically independent floating part includes a selected number of cylindrical balloon rings and supporting rings, and wherein each dynamically independent floating part is fastened independently to the base unit, using at least three threads of high strength and high modulus.

9. (Previously Presented) The adjustable floating solar chimney according to claim 3, wherein the upper ring and the lower ring of the base unit are tied with a plurality of threads having high strength and high modulus, the plurality of threads being surrounded by a flexible plastic film of high strength, whereby air in the solar chimney is prevented from escaping between the upper ring and the lower ring of the base unit.